Is it Time for a National Stormwater Testing & Evaluation Program for Products & Practices? (aka STEPP)

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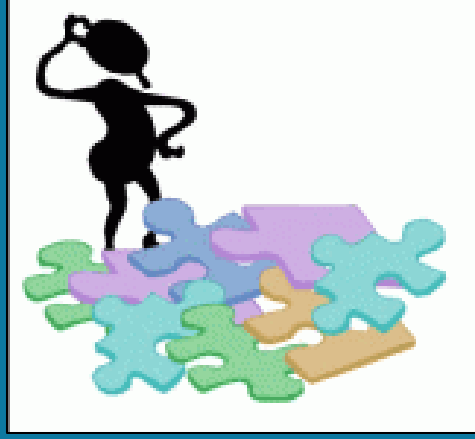
Nature of the Problem



Depends upon point of view…

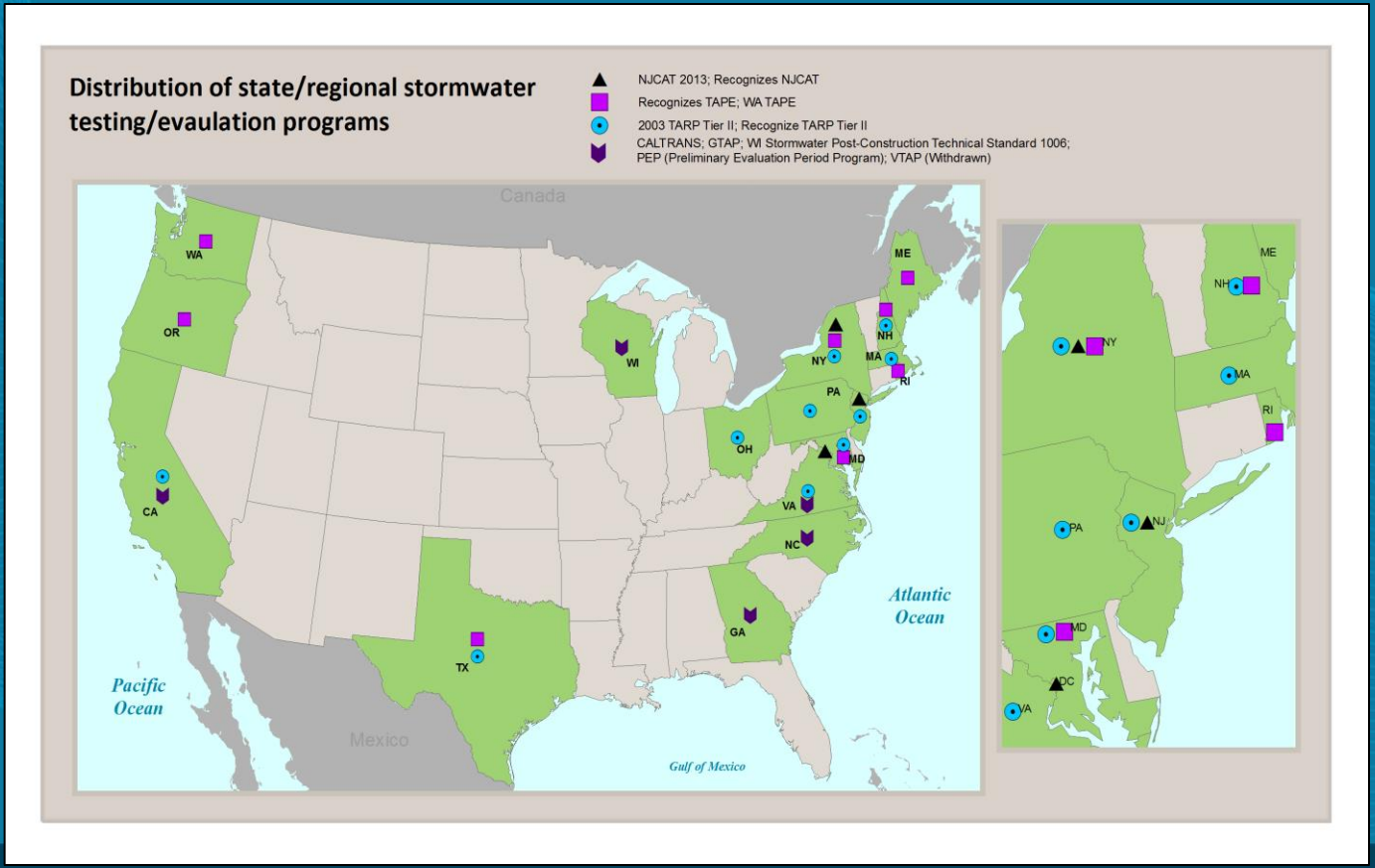
- **Manufacturer:** Product/practice approval process is a barrier
  - Can be challenging and a barrier to innovation and competition
- **Consumer:** Lack of independent testing
  - Reduces confidence in product/practice performance/efficacy
- **Regulator:** Uninformed product/practice consumers
  - May lead to under-performing stormwater programs

Ultimately impacts water quality…..

From WEF, 4/16

Past/Existing Programs

- **State/Regional testing programs have surfaced to attempt to address**
  - **TAPE, WaDOE, NJCAT, NJDEP, TARP, VTAP, VDEQ, NCDNR, OhDOT, GTAP, EPA-ETV, TxCEQ, MASTEP, NYDEC, RIDEM, Indianapolis, Knoxville, Nashville, St. Louis, Wayne Co. MI, Montgomery Co. MD, others…**



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Origin of STEPP

- **Initial meeting @ WEFTEC 2012 where Water Env. Federation (WEF) volunteered to investigate feasibility and need for a national testing & evaluation program for stormwater products & practices.**

- **Workgroup representing consulting, regulatory, NGO, public/municipal and product manufacturing sectors formed the Stormwater Testing & Evaluation for Products & Practices (STEPP) Steering Committee.**

- **White paper of Feb. 2014 identified that a national testing & evaluation program for the stormwater sector is *feasible, needed and critical* to:**
  - ***Improve stormwater management options & performance***
  - ***Cutting time to market for innovation and innovative solutions***
  - ***Provide state and local governments a source of independent performance review of stormwater products & practices.***
  - ***Instill confidence that BMPs are operating as claimed.***
- **August 2015 paper, *STEPP: Findings & Recommendations for National Program Conceptual Design*, provides further insight.**

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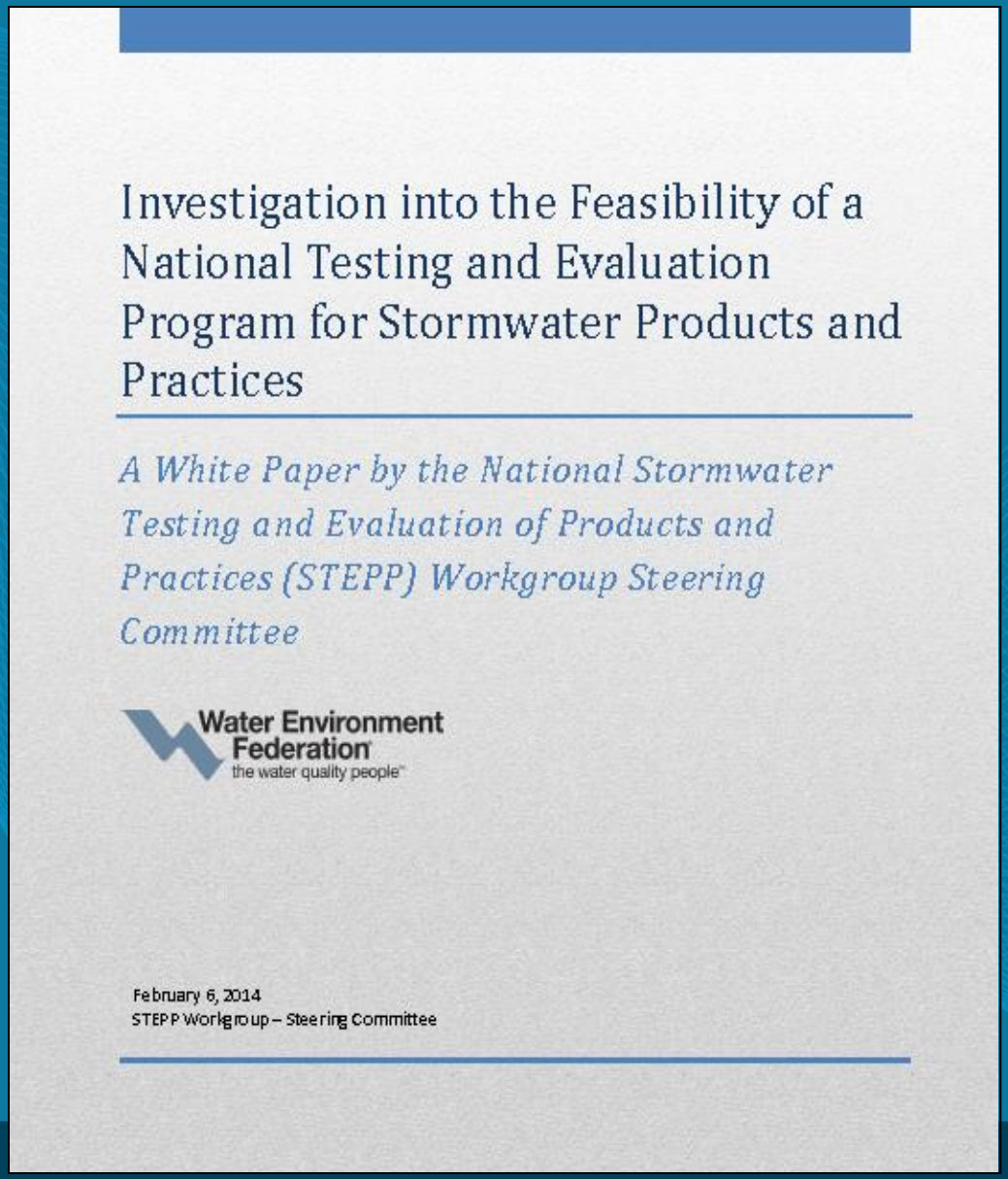
http://www.wef.org/STEPP/



Some supporters:

- **Michigan DEQ**
- **New Jersey DEP**
- **Washing State DOE**
- **WA State Chapter,**
  Am. Public Works Assoc.
  Stormwater Mgrs. Comm.

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STEPP – what it does & doesn't provide

STEPP DOES PROVIDE:

A nationwide stormwater management *PROCESS* to follow for both public domain practices and proprietary manufactured treatment devices (MTDs) to be approved for use within a regulatory jurisdiction.

STEPP DOES NOT PROVIDE:

A new set of laboratory and/or field testing protocols for both public domain practices and MTDs, although modifications to existing testing protocols may evolve during evolution of the program.

STEPP draws on existing New Jersey laboratory and Washington State field testing, evaluation and verification programs of MTDs as initial models.

Current Phase of STEPP

- WEF received grant from EPA Office of Science & Technology to develop recommendations for a national stormwater products/practices testing and evaluation program including:
  - Scale
  - Scope
  - Architecture
  - Funding
  - Leadership

- STEPP Advisory Committee formed in March 2015 representing sectors including NGOs, federal & state regulatory, municipal governments (MS4s), research, stormwater product manufacturing and consulting.

- AdComm charged to assemble knowledge and experience to further drive innovation, reduce costs, and improve confidence in the expected performance of stormwater products and practices through the standardization of testing and evaluation protocols of stormwater technologies.

Survey says…

- State Survey – 38 responses
  - 80% believed in benefit from STEPP
  - 60% did ***NOT*** have:
    - An approved products list
    - A database of products
    - A testing/evaluation program
    - Verification/Certification program

- MS4 Survey – 118 responses from 26 states, most from VA, WA, WI, MN (keep in mind there are 7,500 MS4s)
  - >70% believed in benefit from STEPP
  - >50% did not have the four above-cited items
  - Only 23% indicated willingness to consider providing funding to explore further the conditions under which state and local agencies would be willing to support a national program

?

But aren't we all "Special?"

Key issues in a nutshell

- Regional concerns – What works in WA may not work in TN?
- Short term & long term funding concerns – benefits are recognized but who will pay for it?
- Stakeholder recruitment concerns – who will/won't buy into it and what about reciprocity?

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General Programmatic Area Findings & Rationales

- ***Overall Program #1 - Recruitment***
  - ✓ Focused effort to recruit NPDES delegated state programs, MS4s, EPA and the land development and industrial communities to engage with and provide support for the national program is critical to success of the effort going forward.
  - ✓ Ultimate success will be to gain a critical mass of state and local acceptance.
  - ✓ This critical mass will assure that a key program objective – substantially improving the efficiency with which technologies and practices can be tested and evaluated – can be achieved.
- ***Overall Program #2 - Equity***
  - ✓ A program goal is to move to a "more equitable program" between public domain practices and proprietary products.
  - ✓ Common use public domain practices have "presumptive performance" for approval while MTDs must undergo lab and/or field testing which necessitates an evaluation by stakeholders.
  - ✓ Need to raise effort of testing/evaluation of public domain practices.

General Programmatic Area Findings & Rationales (cont'd)

- ***Overall Program #3 – Café Plan Approach***
  - ✓ Program will adopt a "one national protocol" (one for lab and one for field). Agencies will have the option to choose which test setting (lab or lab and field) and constituents to require/propose for testing, evaluation and verification. BMP proponents also have the option to choose which setting(s) to test.
  - ✓ Pros and Cons exist for lab and field testing programs. Lab tests provide controlled conditions to allow for side-by-side comparisons. Field testing relies on real world, random conditions.
- ***Overall Program #4 – Continual Improvement***
  - ✓ National program will be established to support the expectation that testing protocols and design standards will and should evolve over time.
  - ✓ Program will build in flexibility and responsiveness to adapt to regulatory changes, improved science and engineering, innovation and administrative challenges of running and funding a national program.
  - ✓ Stormwater sector is relatively young, the program will respond to new and creative ways to address pollution for MTDs and public domain practices.

Individual Program Aspect Findings & Rationales

Individual Aspect #1 – Mission & Objectives

- ✓ Purpose seeks to improve water quality by accelerating the implementation and adoption of innovative stormwater treatment technologies and practices through highly reliable, credible and cost effective BMP testing, evaluation and verification services.
- ✓ The National STEPP Program intends to:
  - Remove barriers to innovation
  - Minimize duplicative performance evaluation needs
  - Increase confidence that regulatory requirements are met
  - Create consistency among testing and evaluation protocol
  - Establish greater equity between public domain and MTD approaches
- ✓ Current patchwork of state and local testing, evaluation, verification and certification programs for BMPs has limited innovation and led to barriers to entry for innovative practices and products, and a lack of confidence that deployed BMPs will perform as needed/desired.
- ✓ Disjointed nature of testing programs are costly and time-intensive.

Individual Program Aspect Findings & Rationales (cont'd)

- ***Individual Aspect #2 – Program Services***
  - ✓ National Program will provide for lab and field testing, evaluation and verification of public domain and proprietary BMPs as its core service areas.
  - ✓ The National STEPP Program will enhance the availability of highly credible BMP performance information and close the gap between current testing and evaluation of public domain practices and proprietary products.

- ***Individual Aspect #3 – Organizational Relationships***
  - Three core elements of moving STEPP forward:
    1. Draw on existing New Jersey and Washington State testing, evaluation and verification programs as models for national laboratory (NJ) and field (WA) testing services.
    2. Utilize existing private, not-for-profit organization to "incubate" and manage the National Program.
    3. Development of partnership relationships with states and key federal agencies (e.g., EPA, DOD, DOT, HUD).

Individual Program Aspect Findings & Rationales (cont'd)

- ***Individual Aspect #4 – Operational Structure***
  - ✓ National Program will establish an operational structure that addresses and manages for conflicts of interest.
  - ✓ Role of independent 3rd parties, transparency, and affiliations of individuals in technical committees play an important role in ensuring program credibility and avoidance of conflicts of interest.
  - ✓ National Program would provide for a series of ***Program Functions***.
    - ✓ Testing Protocol Function
      - ➢ Protocol Testing Protocol Committee to support the development, adoption and evolution of testing protocol protocols.
    - ✓ Testing Function
      - ➢ 3rd party aspects for testing and/or oversight.
      - ➢ Pre-approved field test sites
      - ➢ Draw upon NJDEP lab and WaDOE field testing programs.
    - ✓ Evaluation Function
      - ➢ Initially modeled after NJDEP (public comment) and WaDOE (state disclosure rules) using separate Technical Evaluation Committee.

Individual Program Aspect Findings & Rationales (cont'd)

- ***Individual Aspect #5 – Governance***
  - ✓ National Program will establish a 15-20 member Board of Directors from wide range of sectors to:
    1. Set overall policy and strategy
    2. Approve annual budget
    3. Evaluate program (not product/practice)
    4. Direct executive staff on day-to-day administration
- ***Individual Aspect #6 - Funding***
  - ✓ Three Stages of Funding
    1. STEPP Advisory Committee Continued Operations (current)
    2. STEPP National Program Startup Period
    3. STEPP National Program Operations

Each stage will have a different amount of funding that will potentially come from different sources.

Individual Program Aspect Findings & Rationales (cont'd)

❖ ***Individual Aspect #6 – Funding (cont'd)***

✓ Potential Sources of Funding

1. Federal Agencies (EPA, DOD, DOT, HUD)
2. Grants from foundations, research-focused groups and other NGOs
3. Host organization
4. In-kind donations of staff time from public sector program participants (states, MS4s) in lieu of monetary contributions
5. Fees assessment
   a) Fee for services – BMP proponents acquiring product testing/evaluation
   b) State and/or MS4 subscription fee
   c) Subscription model for companies wanting to test products
   d) Workshops/training on BMP evaluation, verification, maintenance, longevity, etc.
   e) A hybrid of multiple options listed above.

Individual Program Aspect Findings & Rationales (cont'd)

- ***Individual Aspect #7 – Stakeholder Engagement & Transparency***
  - ✓ Essential for Board of Directors and Technical Committees to have multi-stakeholder complexion that reflects the full range of relevant stakeholder perspectives.
  - ✓ "All boats need to rise together."
  - ✓ Need to avoid conflicts of interest at the same time.
- ***Individual Aspect #8 – Testing Purpose & Scope***
  - ✓ Current regulatory landscape focuses on TSS but will seek to support a full range of pollutants including Phosphorus, metals (total & dissolved), oil & grease and for the future nitrogen and bacteria [FIFRA issue].
  - ✓ Aspects of BMP testing over time:
    1. BMP performance relative to specified pollutants.
    2. Whether full treatment of the design storm or early bypass occurs.
    3. Operational and maintenance requirements.
    4. Life cycle performance (life – performance curves).

Individual Program Aspect Findings & Rationales (cont'd)

- ***Individual Aspect #9 – Testing Setting***
  - ✓ Under the National Program, states will continue to decide what their demands are for performance information to approve BMP use.
  - ✓ As a start, National Program adopts WaDOE (TAPE) field testing protocol and NJDEP lab testing for TSS (for HDSs and filtration), recognizing that additional constituents are desirable (implies evolving protocols).
  - ✓ If the National Program cannot adapt as the sector evolves, it will quickly become obsolete.
- ***Individual Aspect #10 – Reciprocity***
  - ✓ The National Program will be established to provide voluntary participation by individual states with certain expectations established for "membership" in the program.
  - ✓ Canada ETV is in effect for a national program for HDS lab testing.
  - ✓ Regional concerns may *[will?]* cause an agency to initially distrust a National Program until confidence in the program's viability is established.

Path Forward

Three Phases

1. Continued operations of the Advisory Committee
2. Startup period of the National Program
3. Established program operations

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Phase 1 – Continued Advisory Committee Operations

1. ***Engage the NJCAT and TAPE Programs***
2. ***Structure & Organize a Board of Directors***
3. ***Engage EPA***
4. ***Create a shareholder strategy***
   - EPA, DOD, DOT, HUD, GSA
   - States
   - Municipalities
   - Non-municipal MS4s
   - Military facilities
   - Development associations and industry
   - Manufacturers/Proponents
   - Academics
   - Labs
   - Environmental NGOs
   - Academics
   - Consultants/Practitioners

Phase 2 – Startup Period (24 months)

1. ***Develop business plan including funding***
2. ***Establish clarity on EPA support***
3. ***Execute the shareholder strategy***
4. ***Continue to engage the NJCAT and TAPE programs***
5. ***Recruit a non-profit host organization that has demonstrated experience that:***
   - Has experience with program management with similar technical and programmatic requirements
   - Is nationally recognized leader in water quality policy and management
   - Has a respected, credible and strong reputations as well as having longevity in the industry
   - Has objectivity
   - Has a demonstrated history of fiscal responsibility
   - Has experience working with wide range of clients
   - Can provide in-kind contribution level

Next Steps…

- The National Program Conceptual Design Document is scheduled to be completed in April and released soon after.
- STEPP Advisory Committee continuation
  - Build on business plan framework
- Further engagement with Working Group
- Collaboration with ASTM, ASCE, ITRC, WERF, & EPA Partners
- Build on Interstate Technology Resource Council (ITRC) efforts as appropriate

  - **ITRC has formed stormwater team in 2016**
  - **White paper for ITRC Proposal, *Stormwater BMP Pollution-Reduction Determinations and Performance Verification***

www.itrcweb.org/Team/Public?teamID=72

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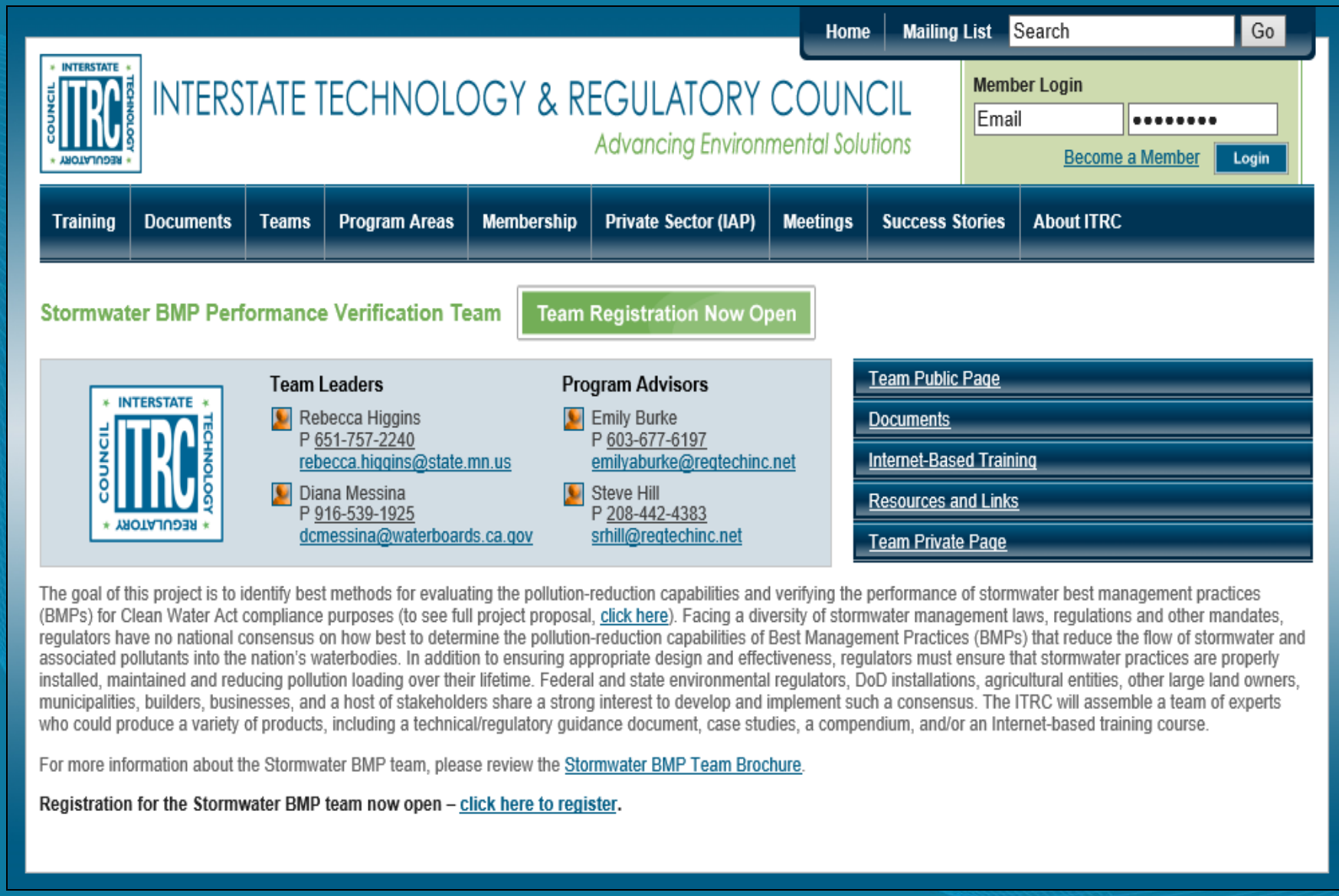

ITRC Remediation-Plus Project Proposal

Stormwater BMP Pollution-Reduction Determinations and Performance Verification

Project Goal:

The goal of this project is to identify best methods for evaluating the pollution-reduction capabilities and verifying the performance of stormwater best management practices (BMPs) for Clean Water Act compliance purposes.

Effectively utilizing stormwater management controls and practices, including BMPs, in a regulatory scheme to protect water quality typically involves the following steps:

- Developing new BMPs
- Quantifying the expected performance of the new BMPs
- Approving BMPs
- Initially verifying that newly constructed BMPs will operate as designed.
- Verifying that older, existing BMPs are operating as designed.

Two Watershed Challenges:

A. BMPs: Quantifying Their Environmental Effectiveness

Facing a diversity of stormwater management laws, regulations and other mandates, regulators have no national consensus on how best to determine the pollution-reduction capabilities of Best Management Practices (BMPs) that reduce the flow of stormwater and associated pollutants into the nation's waterbodies.

Federal and state environmental regulators, DoD installations, agricultural entities, other large land owners, municipalities, and a host of stakeholders share a strong interest to develop and implement such a consensus. EPA and DoD/Navy in particular have expressed support for better and generally accepted measures of BMP effectiveness, especially for non-point sources of pollution (NPS). The issue of NPS BMP effectiveness also ranked highly among environmental

Thank you.

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